

DEFENSE DISTRIBUTION CENTER SUSQUEHANNA PENNSYLVANIA

NEW CUMBERLAND, PENNSYLVANIA

REPLACEMENT TO HVAC SYSTEM IN BUILDING 286



DDSP AERIAL PLAN
SCALE: NO SCALE

DRAWING INDEX		
SHEET #	DRAWING # – DRAWING NAME	
1	<u>GENERAL</u>	
	CS-1 – COVER SHEET	
2	<u>MECHANICAL</u>	
	M-1 – BUILDING 286 PLANS AND SCHEDULES	
3	M-2 – HVAC DETAILS AND DIAGRAMS	

HVAC COMPONENTS

DUCT, FIRST VALUE IS SIDE SHOWN

FLEXIBLE DUCT

LOW VOLTAGE OR CONTROL WIRING

THERMOSTAT

CEILING MOUNTED GRILLE OR REGISTER

DIFFUSER, 4-WAY BLOW

PLAN

CONNECTION TO EXISTING

REMOVE TO POINT

REVISION REFERENCE

SHEET KEYNOTES

AREA AFFECTED BY REVISION.

ELEMENTS TO BE DEMOLISHED

ABBREVIATIONS

ACCU	AIR COOLED CONDENSING UNIT	GAL	GALLONS
ACU	AIR CONDITIONING UNIT	G	GAS
AD	ACCESS DOOR OR AIR DRYER	GPM	GALLONS PER MINUTE
AHU	AIR HANDLING UNIT	HVAC	HEATING, VENTILATING & AIR CONDITIONING
APPROX	APPROXIMATE	HZ	FREQUENCY
AVG	AVERAGE	INFO	INFORMATION
BDD	BACKDRAFT DAMPER	IN WC	INCHES IN WATER COLUMN
BTU	BRITISH THERMAL UNITS	KW	KILOWATTS
BTUH	BRITISH THERMAL UNITS PER HOUR	LAT	LEAVING AIR TEMPERATURE
CD	CEILING DIFFUSER	LBS	POUNDS
CFM	CUBIC FEET PER MINUTE	LDB	LEAVING DRY BULB TEMPERATURE
CONN	CONNECTION	LWB	LEAVING WET BULB TEMPERATURE
CR	CEILING RETURN	LWT	LEAVING WATER TEMPERATURE
CUH	CABINET UNIT HEATER	MBH	1000 BTUH
DB	DRY BULB	NC	NORMALLY CLOSED OR NOISE CRITERIA
DN	DOWN	NTS	NOT TO SCALE
DWG	DRAWING	OA	OUTSIDE AIR
DX	DIRECT EXPANSION	PD	PRESSURE DROP
EA	EXHAUST AIR	PSI	POUNDS PER SQUARE INCH
EAT	ENTERING AIR TEMPERATURE	RA	RETURN AIR
EDB	ENTERING DRY BULB TEMPERATURE	RG	RETURN GRILLE
EF	EXHAUST FAN	RR	RETURN REGISTER
EG	EXHAUST GRILLE	SA	SUPPLY AIR
EL	ELEVATION	SF	SUPPLY FAN
ER	EXHAUST REGISTER	SHT	SHEET
ESP	EXTERNAL STATIC PRESSURE	SP	STATIC PRESSURE
EUH	ELECTRIC UNIT HEATER	SPEC	SPECIFICATION
EWB	ENTERING WET BULB TEMPERATURE	SS	STAINLESS STEEL
EWC	ELECTRIC WATER COOLER	STD	STANDARD
EWT	ENTERING WATER TEMPERATURE	TEMP	TEMPERATURE
EXIST	EXISTING	TG	TRANSFER GRILLE
FD	FIRE DAMPER OR FLOOR DRAIN	TYP	TYPICAL
FMS	FACILITY MANAGEMENT SYSTEM (HVAC)	UH	UNIT HEATER
FPM	FEET PER MINUTE	UL	UNDERWRITERS LABORATORIES
FPS	FEET PER SECOND	WB	WET BULB
FT	FEET	WPD	WATER PRESSURE DROP

INTERPRETATION OF DRAWINGS

1. THE MECHANICAL DRAWINGS CANNOT BE FULLY AND CORRECTLY INTERPRETED WITHOUT REFERENCE TO SPECIFICATIONS SYMBOLS, SCHEDULES, AND ABBREVIATIONS.

2. ANY OF THE SYMBOLS AND ABBREVIATIONS MAY APPEAR ON THE DRAWINGS, USE ONLY THOSE PERTAINING TO THESE DOCUMENTS.

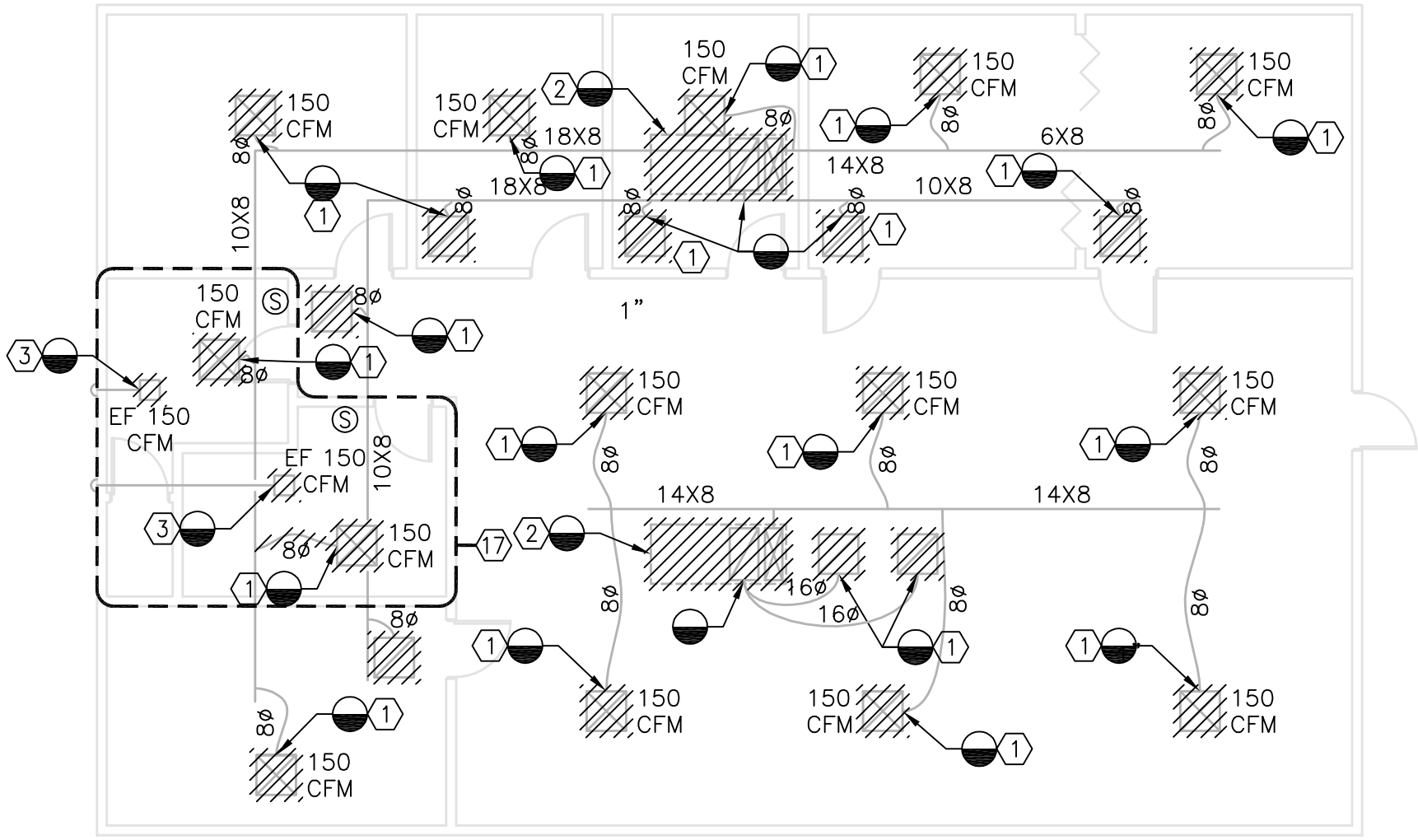
3. THE MECHANICAL DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO INDICATE CAPACITY, SIZE, APPROXIMATE LOCATION AND GENERAL ARRANGEMENT, NOT THE SPECIFIC DETAILS OF CONSTRUCTION AND INTERCONNECTION OF SYSTEMS.

NO.		REVISIONS		DATE			
APPROVED BY		DEFENSE LOGISTICS AGENCY DEFENSE DISTRIBUTION DEPOT SUSQUEHANNA, PENNSYLVANIA FACILITIES ENGINEERING DIVISION, ENGINEERING BRANCH NEW CUMBERLAND, PA 17070-5002					
CONSTRUCTION REPRESENTATIVE						OFFICE OF COMMAND SECURITY	
ENVIRONMENTAL BRANCH						SAFETY AND HEALTH	
FIRE PROTECTION BRANCH						GFC. OF TEL. AND COMM. INFO. SYSTEMS	
INDUSTRIAL HYGIENIST		USER		REPLACEMENT TO HVAC SYSTEM IN BUILDING 286			
MAINTENANCE OPERATION BRANCH		COVER SHEET					
		DESIGNED BY: PWH/GWS		CHECKED BY:			
		DRAWN BY: EMC		PROJECT NO. 3628			
		SCALE: AS NOTED		DRAWING NO. CS-1			
ROB MONTEFOUR		FACILITIES ENGINEER		SHEET 1 OF 3			
				DATE JULY 08			

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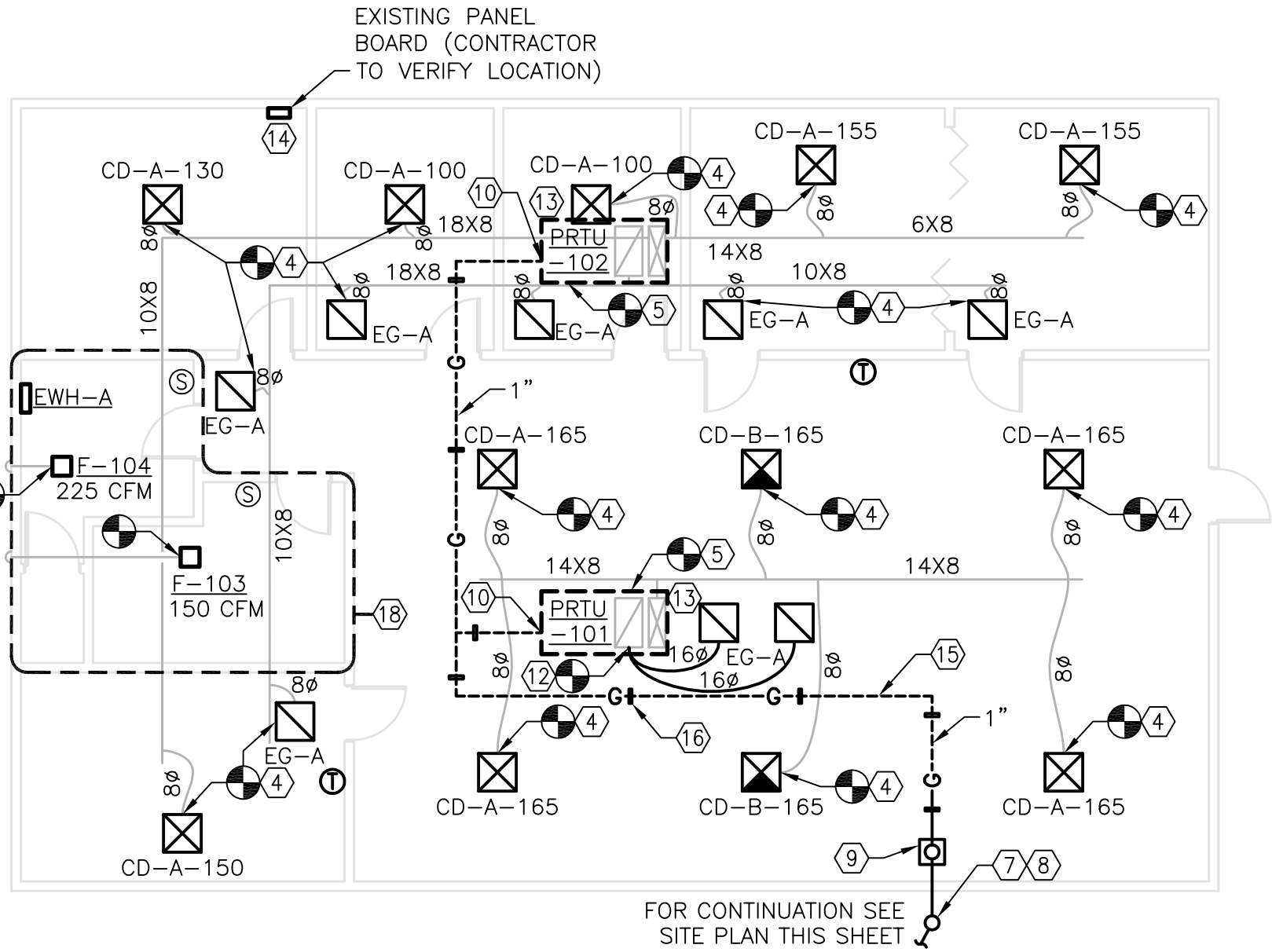
BUILDING 286 SITE NEW WORK PLAN

SCALE: 1/16" = 1'-0"



BUILDING 286 DEMOLITION PLAN

SCALE: 1/8" = 1'-0"



BUILDING 286 NEW WORK PLAN

SCALE: 1/8" = 1'-0"

PACKAGED ROOFTOP AIR HANDLING UNIT SCHEDULE

TAG	SUPPLY FAN						MIN SEER (ARI)	ELECTRICAL DATA				GAS HEAT		COOLING					APPROX OPERATING WT. (LBS)	REMARKS	BASIS OF DEDIGN MANUFACTURER MODEL			
	TOTAL CFM	SERVING	MAX OA CFM	MIN OA CFM	ESP (IN WC)	MAX RPM		FAN HP	VOLTS	PHASE	HERTZ	MIN CKT AMP	MAX CKT	MBH	EAT	TOTAL MBH	SENS. MBH	EDB °F				EWB °F	LDB °F	LWB °F
PRTU-101	1,000	MAIN ROOM	1,000	300	0.50	1500	1	13	208	3	60	27	40	72.9	52.5	41.9	26.5	79.2	67	55.0	53.3	950	PROVIDE WITH ADAPTOR CURB	AAON RM-A04-8
PRTU-102	800	ADJACENT SMALLER ROOMS	800	250	0.5	1400	1	13	208	3	60	19	25	55.9	51.6	34.1	21.4	79.4	67.2	55	53.3	900	PROVIDE WITH ADAPTOR CURB	AAON RM-A03-8

NOTE: PACKAGED ROOFTOP UNIT COOLING CAPACITY BASED ON 95F ABMIENT AIR TEMPERATURE

FAN SCHEDULE

TAG	SERVING	TYPE	AIRFLOW (CFM)	ESP (IN W.G.)	DRIVE	MAX RPM	MOTOR H.P.	ELECTRICAL DATA			METHOD OF CONTROL		REMARKS
								VOLTS	PHASE	HERTZ			
F-101	LADIES ROOM	CEILING	150	0.375	DIRECT	1200	1/6	120	1	60	12 HR TIMER WALL SWITCH		
F-102	MENS	CEILING	215	0.375	DIRECT	1400	1/4	120	1	60	13 HR TIMER WALL SWITCH		

1. PROVIDE WITH SOLID STATE SPEED CONTROLLER MOUNTED ON SIDE OF FAN FOR VOLUME CONTROL

REGISTER, GRILLE, AND DIFUSER SCHEDULE

TAG	MAXIMUM CFM	DUCT SIZE (IN)	DESCRIPTION	S.P. (IN WG)	VERTICAL THROW (FT.) AT 100 FPM	REMARKS AND DIRECTION OF FLOW	MAX NC LEVEL	MANUFACTURER MODEL BASIS OF DESIGN
CD-A	225	8	CEILING DIFFUSER	0.07	-	24 X24 PANEL	20	TITUS TCD
CD-B	225	8	CEILING DIFFUSER	0.07	-	24 X24 PANEL - 3 WAY BLOW	20	TITUS TCD
EG-A	1500	22 x 22	EGG CRATE GRILLE	0.025		24 X24 EGG CRATE GRILLE	15	TITUS 50FF

ELECTRIC WALL HEATER SCHEDULE

TAG	TYPE	KW	BTUH	ELECTRICAL DATA			FAN MOTOR HP	HEATING STAGES	AIRFLOW (CFM)	REMARKS
				VOLTS	PHASE	HERTZ				
EWHA	SEMI-RECESSED	1.5	5.1	208	1	60	-	1	-	INTEGRAL THERMOSTAT

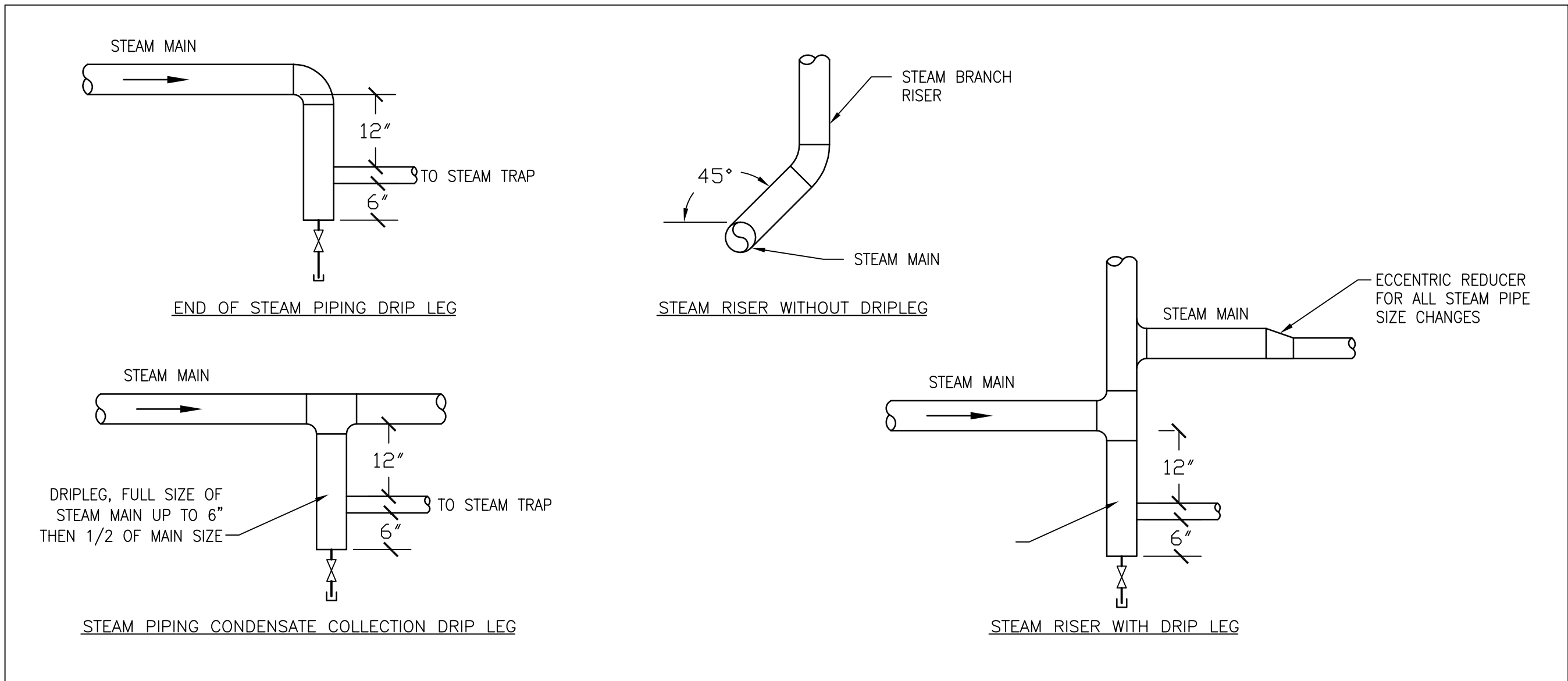
SHEET KEYNOTES

- DEMOLISH EXISTING DIFFUSER/GRILLE/REGISTER.
- DEMOLISH EXISTING PACKAGED ROOFTOP AIR CONDITIONING UNIT (PRTU). PREPARE EXISTING DUCTWORK FOR CONNECTION TO NEW PRTU.
- DEMOLISH EXISTING EXHAUST FANS. PREPARE EXISTING DUCTWORK OF CONNECTION TO NEW FAN.
- CONNECT NEW DIFFUSER TO EXISTING DUCTWORK. EXISTING FLEXIBLE RUNNOUT MAY BE REUSED IF THERE ARE NO RIPS OR TEARS IN THE DUCTWORK OR INSULATION/VAPOR BARRIER, OTHERWISE REPLACE FLEXIBLE DUCTWORK IN KIND.
- CONNECT EXISTING SUPPLY AND RETURN DUCTWORK TO NEW PRTU. PROVIDE ADAPTOR CURB CONNECTION AS NECESSARY.
- CONNECT NEW NATURAL GAS PIPING TO EXISTING UNDERGROUND PIPING.
- ADD PRESSURE REGULATOR AND STOP VALVES AS PER THE NATURAL GAS UTILITY REQUIREMENTS. REDUCE PRESSURE FROM 10 PSIG TO 16" WG
- EXTEND NATURAL GAS PIPING FROM GRADE THROUGH SOFFIT INTO CEILING PLENUM.
- NATURAL GAS PIPING UP TO ROOF. ROOF PENETRATION SHALL BE THROUGH A MANUFACTURED PIPING CURB ASSEMBLY.
- NATURAL GAS PIPING CONNECTION TO PRTU WITH PRESSURE REGULATOR AND STOP VALVE.
- DEMOLISH FLEXIBLE DUCTWORK AND RETURN AIR GRILLE. MAKE FLEXIBLE DUCTWORK CONNECTION TO RIGID DUCTWORK READY FOR INSTALLATION OF NEW FLEXIBLE RETURN AIR DUCTWORK (ENLARGE OR CAP AND PATCH).
- NEW RETURN AIR FLEXIBLE DUCTWORK AND GRILLE. CONNECT TO EXISTING RETURN AIR RIGID DUCTWORK.
- DISCONNECT EXISTING UNITS AND RECONNECT TO EXISTING CONDUCTORS. CONTRACTOR SHALL PROVIDE EXTERNAL RATED DISCONNECT SWITCH (40A FOR PRTU-101, AND 30A FOR PRTU-102).
- REPLACE TWO (2) EXISTING 50A/3P CIRCUIT BREAKERS IN EXISTING PANEL BOARD WITH APPROPRIATE SIZED BREAKERS FOR NEW ROOFTOP UNITS. (FURNISH 3# 8+1# 10 GRD -3/4" CONDUIT FOR PRTU-101; AND FURNISH 3# 10+1# 10 GRD -3/4" CONDUIT FOR PRTU-102)
- 1" GAS PIPING ON ROOF.
- POLYCARBONATE NATURAL GAS PIPE SUPPORT - MIRO MODEL 3-RAH-7 OR EQUIVALENT.
- IN RESTROOMS DEMOLISH EXISTING LAYIN CEILING TILES AND BATT INSULATION ON CEILING TILES. CEILING GRID TO REMAIN.
- IN RESTROOMS REPLACE CEILING TILES WITH CERAMIC MINERAL COMPOSITE LAYIN CEILING TILE WITH FACTORY APPLIED PLASTIC FINNISH, ARMSTRONG CERAMAGUARD OR EQUIVALANT. REPLACE BATT INSULATION WITH 9" FOIL FORCED FIBERGLASS BATT INSULATION LAID ON THE CEILING TILES WITH THE VAPOR BARRIER FACING DOWN.

1' 0" 4' 8' 16'
1/8" = 1'-0"

NO.		REVISIONS		DATE
APPROVED BY		DEFENSE LOGISTICS AGENCY		
CONSTRUCTION REPRESENTATIVE		DEFENSE DISTRIBUTION DEPOT SUSQUEHANNA, PENNSYLVANIA		
ENVIRONMENTAL BRANCH		FACILITIES ENGINEERING DIVISION, ENGINEERING BRANCH		
FIRE PROTECTION BRANCH		NEW CUMBERLAND, PA 17070-5002		
INDUSTRIAL HYGIENIST		REPLACEMENT TO HVAC		
MAINTENANCE OPERATION BRANCH		SYSTEM IN BUILDING 286		
ROB MONTEFOUR		BUILDING 286 PLANS AND SCHEDULES		
FACILITIES ENGINEER		DESIGNED BY:	CHECKED BY:	PROJECT NO.
		PWH/GWS		3628
		DRAWN BY:	CIVIL ENGR.	DRAWING NO.
		EMC		M-1
		SCALE:	ELEC. ENGR.	SHEET
		AS NOTED		2 OF 3
			MECH. ENGR.	DATE
			ARCHITECT	JULY 08
			SUPR. ENGR.	

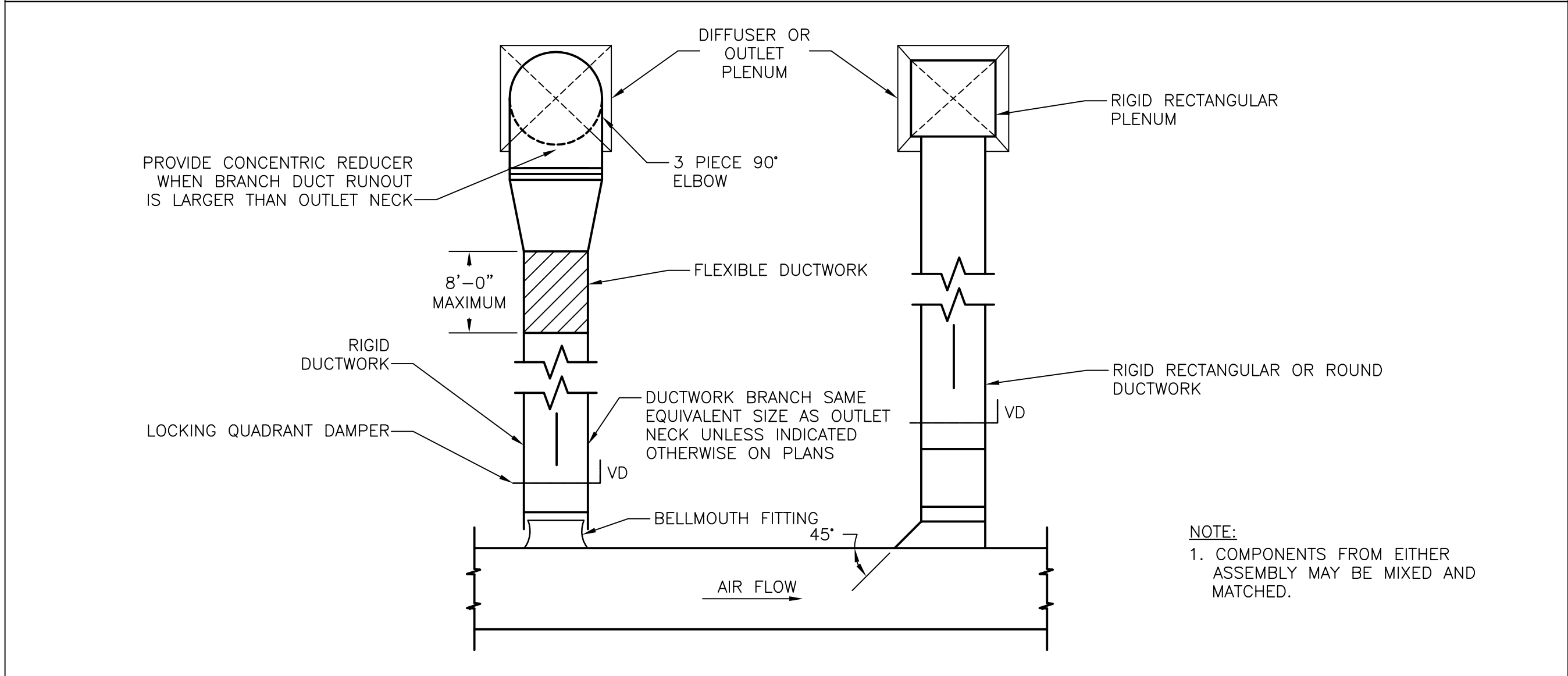
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STEAM RISERS & CONDENSATE COLLECTION DRIPLEG ASSEMBLIES

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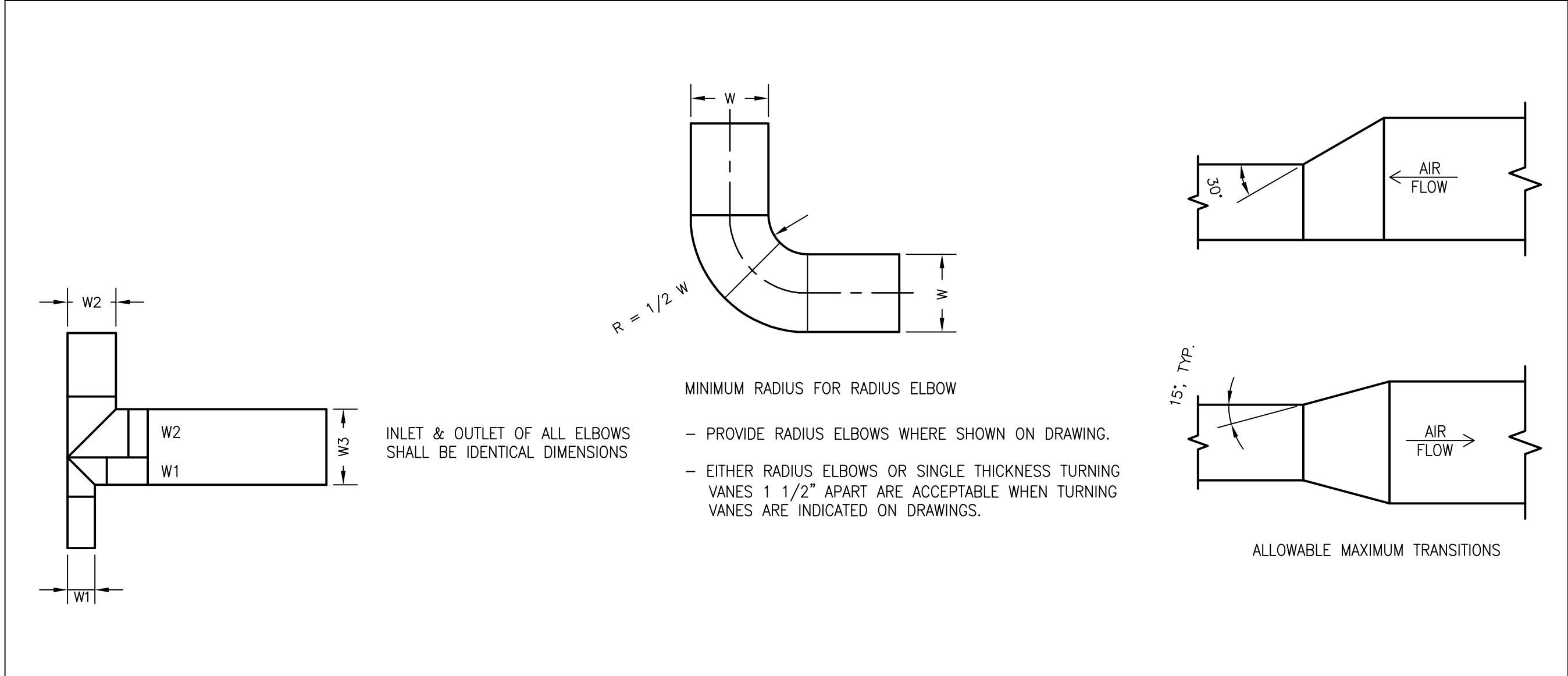
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AIR OUTLET BRANCH ASSEMBLY

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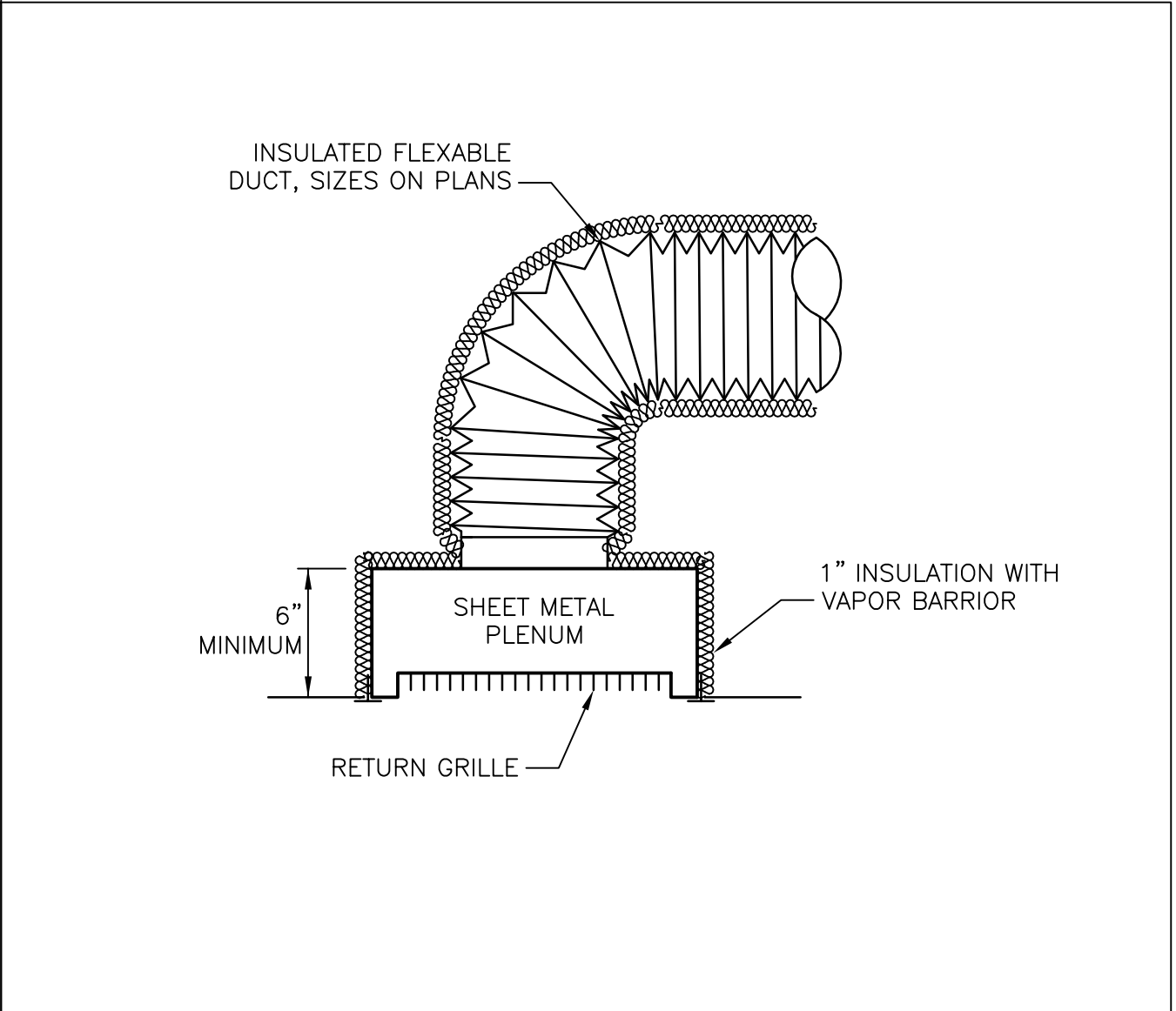
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DUCTWORK ASSEMBLY RESTRICTIONS

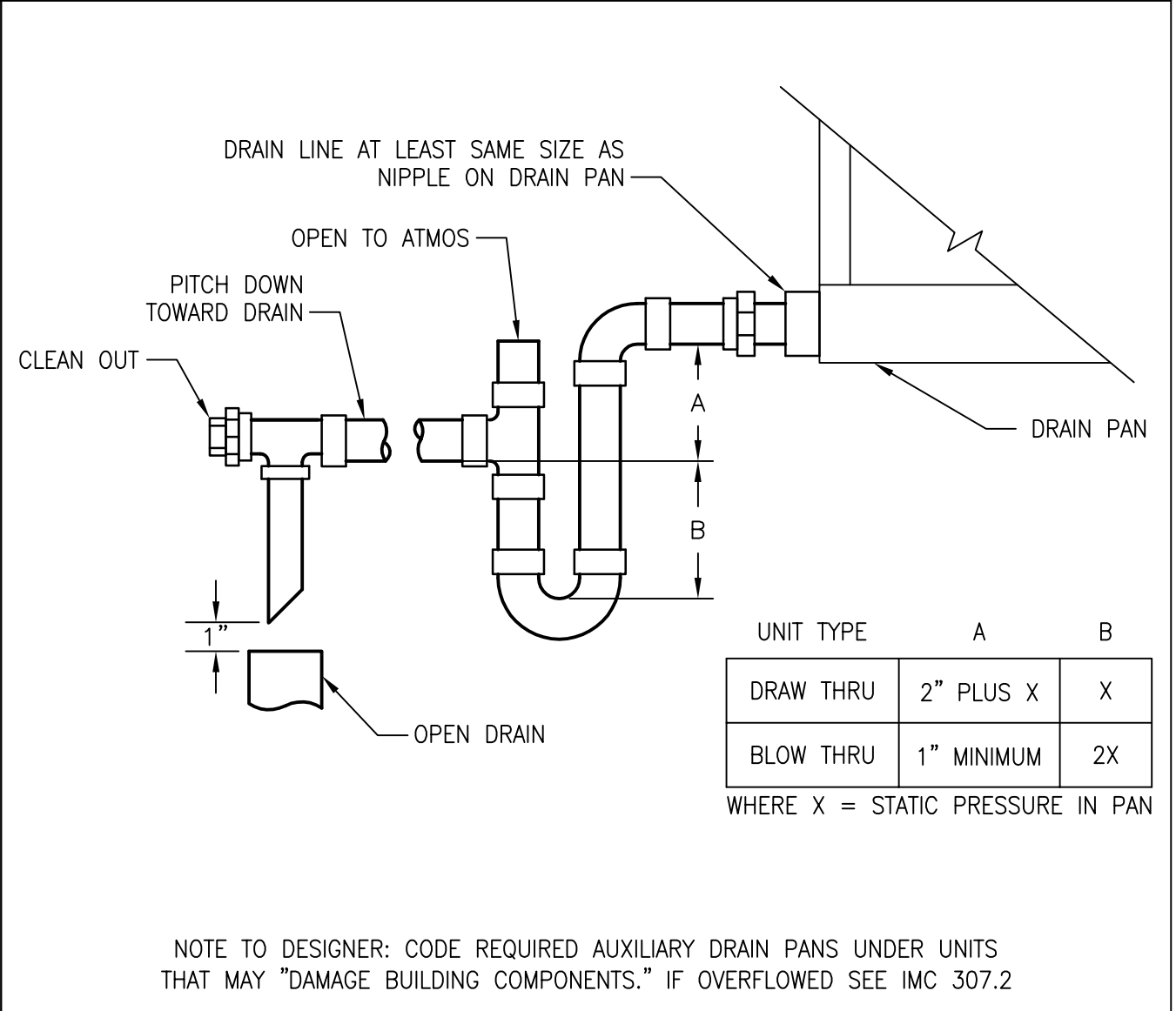
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EGG CRATE RETURN GRILLE DETAIL

SCALE: NTS



AIR CONDITIONING CONDENSATE DRAIN TRAP

15720-20

SCALE: NTS

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		DEFENSE DISTRIBUTION DEPOT SUSQUEHANNA, PENNSYLVANIA			
CONSTRUCTION REPRESENTATIVE		FACILITIES ENGINEERING DIVISION, ENGINEERING BRANCH			
		NEW CUMBERLAND, PA 17070-5002			
ENVIRONMENTAL BRANCH		REPLACEMENT TO HVAC			
		SYSTEM IN BUILDING 286			
FIRE PROTECTION BRANCH		DETAILS, SCHEDULES, DIAGRAMS, AND NOTES			
OFC. OF TEL. AND COMM. INFO. SYSTEMS					
INDUSTRIAL HYGIENIST		DESIGNED BY:		CHECKED BY:	
		PWH/GWS		PROJECT NO.	
MAINTENANCE OPERATION BRANCH		DRAWN BY:		3628	
		EMC		DRAWING NO.	
		SCALE:		M-2	
		AS NOTED		SHEET	
ROB MONTEFOUR				3 OF 3	
FACILITIES ENGINEER				DATE	
				JULY 08	